

Agency Response to Public Comments on 60-Day Federal Register Notice

On December 6, 2018, the Centers for Disease Control and Prevention (CDC) posted for public comment Docket: CDC-2018-0108, National Surveillance of Community Water Systems and Corresponding Populations with the Recommended Fluoridation Level (60Day–19–19DO). Two comments were submitted for consideration. They are summarized with responses here.

Public Comment #1

Statement: Respondent commented on the following statement: “Historically collected natural fluoride concentrations are available in WFRS for all CWS; once collected, they rarely change over time.” Respondent suggests that updates on natural fluoride levels be more frequent than at present and that this information include changes in water sources.

Response: The US Environmental Protection Agency (EPA) is the regulatory entity that determines the frequency of natural fluoride monitoring—typically one measurement every 3 years. States are responsible for maintaining these data, and they only report to EPA if a violation is found (i.e., a fluoride measurement at or above 4.0 mg/L). As a nonregulatory agency, CDC cannot require states to test their natural water sources more frequently than what is established by EPA. CDC asks states to review and update all their data in the Water Fluoridation Reporting System (WFRS) on a continual or, at minimum, annual basis. This includes any changes to water sources and their natural fluoride levels. Systems that have high levels of natural fluoride and use treatment methods to reduce their fluoride levels are classified as defluoridated and tracked.

Statement: The accuracy of reported community water system (CWS) populations was questioned.

Response: States enter population estimates into CDC’s Water Fluoridation Reporting System (WFRS). These estimates are typically extracted from water system Consumer Confidence Reports (CCRs), State Sanitary Survey reporting, or yearly inspections. States also update EPA’s Safe Drinking Water Information System (SDWIS Fed) on a continual basis. Each year, CDC obtains current population data estimates from EPA’s SDWIS Fed and compares these data to the data entered into WFRS. Programs that participate in WFRS are then sent a state-specific report detailing any differences between the two databases. States are responsible for validating and updating the corrected population data in WFRS.

Statement: Respondent asked that CDC’s public-facing My Water’s Fluoride database be improved to allow greater access to water system operational data or that the public be given easier access to WFRS.

Response: Some states choose to use My Water’s Fluoride as their way of providing public access to data, whereas other states choose alternate means to provide public access for that data. In addition, states currently have the authority to determine the extent of the information they want displayed in My Water’s Fluoride. If the information is not accessible in My Water’s Fluoride, the public can request data from either the state or their CWS.

Statement: Respondent noted that My Water’s Fluoride presents a default value of 0.7 mg/L for adjusted water systems and asked CDC to inform viewers that they are looking at default values rather than actual test results.

Response: It is correct that My Water’s Fluoride presents target operational-level data for adjusted systems. CDC is reviewing the information currently provided in My Water’s Fluoride to ensure better public understanding of what is reported.

Public Comment #2

Public comment #2 was determined to be outside the scope of this project. Therefore, a substantive response from CDC was not warranted.

Public Comment #1

The collection of water fluoride test data as is done with the Water Fluoridation Reporting System (WFRS) should continue and be improved. This data collected is vital for scientific research. This data was vital when the CDC proposed new control ranges for fluoridation.

This document states:

"Historically collected natural fluoride concentrations are available in WFRS for all CWS; once collected, they rarely change over time." This seems to be a poor excuse for not providing valid and up to date natural fluoride concentrations in the WFRS and the MWF (My Water's Fluoride website). The data for natural fluoride as seen in the MWF website simply cannot be trusted. It may be many years old, and the source of this data is not given. Incorrect data as reported on the MWF site can be proven by looking at the fluoride test results in state drinking water watch website and CCR reports. The numbers do not always agree with the MWF. Water systems test for natural fluoride on a regular basis and these test results can be accessed by the public.

Water systems with a high natural fluoride level may switch sources to a low fluoride source. That would be seen fairly quickly in EPA required testing and reported on state databases and CCR reports. But the MWF site could still have either very old or false data. That does not serve the public using the MWF or scientists using the WFRS. Sometimes a water system with high fluoride brings a filtration system online. Once again, that would be seen fairly soon on CCR reports and in state data, but possibly not seen in the MWF and WFRS data.

The population served figures reported for individual water systems in MWF are also out of date according to state reported data. This has a negative effect on scientific studies that use the WFRS data. This could be corrected.

The document states: "Respondents also are asked to enter the high, low, and average fluoride testing level data annually for each month for their fluoride-adjusted CWS. Currently, two-thirds of the states respond to this portion of the collection."

But access to that data is not generally available on the MWF site. For one state I was able to generate a fluoridation report and see monthly test data for systems with fluoridation. But most states do not permit the public to see all the data. The MWF should be improved to allow the public to see this data, or easier access to the WFRS should be allowed.

The MWF site lists every water system practicing fluoridation in the country as having a 0.7ppm fluoride level when in reality many do not. Actually the 0.7 ppm level seen in the MWF is a default value set for every system. The CDC should inform viewers of this website they are looking at default values, not actual test results. People today are getting the wrong information about their fluoride level from this site. One water system with fluoridation at 1.2ppm has a default value of 0.7ppm. MWF

should show the actual test results for fluoride levels for the states that submit this data, and use clearly explained default value for states that do not.

To summarize, the CDC needs to improve and upgrade its fluoride data collection and reporting.

A method needs to be implemented to allow scientific researchers to access data in the WFRS.

Public Comment #2

I find it appalling that this notice consists primarily of marketing material for fluoridation policy. Obviously we should collect and monitor data on fluoride levels in water supplies. However, we should not spread disinformation based on dental dogma that ignores the harms of fluoride in the water, particularly in those communities with 'optimal' fluoridation schemes of 0.7 ppm. Below are several recent scientific studies just on evidence of harm to thyroids & teeth at levels considered 'optimal' by organizations charged with promoting these schemes. There is much more, but this is sufficient to document the unscientific bias of CDC relevant to fluoridation.

THYROID DISEASE - concentrations at or above 0.5 ppm interferes with iodine metabolism and thyroid function

Ashley J. Malin, Julia Riddell, Hugh McCague, Christine Till. Fluoride exposure and thyroid function among adults living in Canada: Effect modification by iodine status. *Environment International*. Volume 121, Part 1, December 2018, Pages 667-674.
<https://www.sciencedirect.com/science/article/pii/S016041201830833X>

Z. Kheradpisheh et al. (2018) Impact of Drinking Water Fluoride on Human Thyroid Hormones: A Case- Control Study. *Scientific Reports*. volume8. doi:10.1038/s41598-018-20696-4
<https://www.NCBI.nlm.nih.gov/pmc/articles/PMC5805681/>

Dogan s et al. Biomimetic Tooth Repair: Amelogenin-Derived Peptide Enables in Vitro Remineralization of Human Enamel. *ACS Biomater. Sci. Eng.* March 9, 2018.
<https://pubs.acs.org/doi/abs/10.1021/acsbiomaterials.7b00959>

Singh N et al. A comparative study of fluoride ingestion levels, serum thyroid hormone & TSH level derangements, dental fluorosis status among school children from endemic and non-endemic fluorosis areas. *SpringerPlus* 2014 3:7.
http://www.NCBI.nlm.nih.gov/pmc/articles/PMC3890436/pdf/40064_2013_Article_766.pdf

Jianjie C Wenjuan X, Jinling C, Jie S, Ruhui J, Meiyan L. Fluoride caused thyroid endocrine disruption in male zebrafish (*Danio rerio*). *Aquat Toxicol.* 2016 Feb;171:48-58.
<https://www.NCBI.nlm.nih.gov/pubmed/26748264>

S Peckham, D Lowery, S Spencer. Are fluoride levels in drinking water associated with hypothyroidism prevalence in England? A large observational study of GP practice data and fluoride levels in drinking water. *J Epidemiol Community Health.* 24 February 2015. doi:10.1136/jech-2014-204971.
<https://www.NCBI.nlm.nih.gov/pubmed/25714098>

DENTAL FLUOROSIS - harms teeth in over half of today's teens per NHANES data and dental

fluorosis is associated with increased learning disabilities, and kidney disease.

Wiener RC, et al. Dental Fluorosis over Time: A comparison of National Health and Nutrition Examination Survey data from 2001-2002 and 2011-2012. *J Dent Hyg* February 2018 vol. 92 no. 1 23-29. <https://www.ncbi.nlm.nih.gov/pubmed/29500282>

Harriehausen CX et al. Fluoride Intake of Infants from Formula. *Journal of Clinical Pediatric Dentistry*. October 2018. <http://jocpd.org/doi/10.17796/1053-4625-43.1.7>

Cho AL et al. Association of lifetime exposure to fluoride and cognitive functions in Chinese children: A pilot study. *Neurotoxicology and Teratology*. Volume 47, JanuaryFebruary 2015, Pages 96101. <http://www.sciencedirect.com/science/article/pii/S0892036214001809>

Yu X et al. Threshold effects of moderately excessive fluoride exposure on children's health: A potential association between dental fluorosis and loss of excellent intelligence. *Environ Int*. 2018 Jun 2;118:116-124. <https://www.ncbi.nlm.nih.gov/pubmed/29870912>

Quadri JA. Fluoride-associated ultrastructural changes and apoptosis in human renal tubule: a pilot study. *Human & Experimental Toxicology*. 14 Feb 2018; Volume 37, issue 11, pages 1199-1206. <https://journals.sagepub.com/doi/abs/10.1177/0960327118755257>